



***Understanding Society***  
**The UK Household Longitudinal Study**  
**Spending Study 1**

**User Guide**

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## 1. Overview

The *Understanding Society* Spending Study 1 explores the role of mobile technologies in improving the measurement of expenditure in *Understanding Society*. Adult respondents of Innovation Panel Wave 9 were invited to download an app onto their smartphone or tablet and use it for one month to scan shopping receipts from purchases of goods and services or to directly report their spending. Participants were incentivised throughout the fieldwork period, with incentives being paid at the end of the project.

The study was led by the Institute for Social and Economic Research at the University of Essex and carried out in collaboration with Kantar Worldpanel who developed the app and implemented fieldwork between the end of October 2016 and early January 2017. The study was part of a project on “Understanding Household Finance through Better Measurement” funded by the UK Economic and Social Research Council (ESRC) and the National Centre for Research Methods (NCRM) (grant reference ES/N006534/1). More information about the research project is available at <https://www.iser.essex.ac.uk/research/projects/understanding-household-finance-through-better-measurement>.

The data deposited for Spending Study 1 include the spending data collected with the app, plus responses to an initial registration survey, weekly debrief surveys, and an end of project survey. The questionnaires and procedures for data collection are documented in this User Guide. Screenshots of the app are in a separate document (User Guide Appendix C: App Screenshots). The accompanying Codebook documents the contents of each data set.

The data from Spending Study 1 can be linked to individual data from the Innovation Panel interviews. The Innovation Panel is a probability sample of households in Great Britain that interviews all household members aged 16+ annually, starting in 2008. Information about the design and content of the Innovation Panel is available at <https://www.understandingsociety.ac.uk/documentation/innovation-panel>. Innovation Panel data are available to download from the UK Data Service at <https://discover.ukdataservice.ac.uk/catalogue/?sn=6849> ). The key linkage variables are the personal identifier “pidp” and the household identifier “i\_hidp”.

## **2. The app and associated questionnaires**

Data collection for this study consisted of the following components:

### *2.1 Registration survey*

All adult members of participating households in *Understanding Society* Innovation Panel Wave 9 were invited to the *Understanding Society* Spending Study 1 by post, and by email if the email address of the sample member was known. They were first asked to complete a brief online registration survey. The registration survey asked sample members to confirm their identity, provide their email address and mobile phone number, and asked a few questions about spending: whether they are the person who is mainly responsible for buying goods and services in their household, how often they spend money on goods and services, and how often they shop online. Sample members were also asked how often they and their partner receive money on a regular basis from work, pensions or benefits, and when their next payment was expected. At the end of the registration survey, sample members were given instructions on how to download the receipt scanning app and were provided with log-in details. On completion of the registration survey sample members were also sent an email containing their log-in details and links to the app in the Apple App Store and the Google Play Store. The registration questionnaire is documented in Appendix A1.

### *2.2 Receipt scanning app*

The receipt scanning app was developed by Kantar Worldpanel and tailored to the Spending Study using the *Understanding Society* branding and text specified by the Institute for Social and Economic Research at the University of Essex. Sample members were asked to use the app every day for one month to record their spending on goods and services. There were four sections in the app:

- 1) In the first section participants could take photos of their shopping receipts, which were automatically uploaded.
- 2) In the second section participants could report purchases for which they did not have a receipt. Participants were asked to enter the amount of spending and then select which of ten categories of goods and services were included in this purchase.
- 3) In the third section participants could report that they had not spent anything on that day.
- 4) In the fourth section participants could view Frequently Asked Questions (FAQs).

The app was available for iOS and Android operating systems and could be downloaded in the Apple App Store or in the Google Play Store. Screenshots from the different sections in the app can be found in a separate document: User Guide Appendix C – App Screenshots.

### *2.3 End-of-week debrief surveys*

At the end of each week sample members who had used the app at least once were invited by email to complete an online end-of-week survey. They were asked to estimate the total amount that they (and their partner) had spent on goods and services in the last week and to report how easy or difficult they had found completing the Spending Study that week. At the end of the first week, sample members were also asked about specific difficulties they might have had in reporting their spending. The questionnaire was routed based on the sample member's participation in the previous week: sample members who had used the app at least once in the previous week were also asked to estimate how much of their spending they had reported in the app, and how long they thought it took to participate in the study during the week. The end of week questionnaire is documented in Appendix A2.

### *2.4 End-of-project debrief survey*

At the end of week 5, sample members were invited by email to complete an online end-of-project survey. There were three versions of the questionnaire: for sample members who had participated in all five weeks (*full participants*), for those who had participated at least once but not in the final week (*partial participants*), and for those who had not downloaded the app (*non-participants*). The survey for *full participants* and *partial participants* included the end-of-week survey for week 5, and then asked additional questions about their perceived burden of participation, the quality of their responses, and any other comments about their participation. They were also asked to estimate how much they had spent in the last month. The survey for *non-participants* included questions from the registration survey about whether they are the person mainly responsible for buying goods and services in their household and frequency of spending, and then asked additional questions about the main reason they did not participate in the Spending Study, any difficulties they had when deciding whether to participate, and about their estimate of how much they had spent in the last month. The end of project questionnaire is documented in Appendix A3.

### **3. Sample**

All adult sample members (aged 16+) in households where at least one household member gave an interview at *Understanding Society* Innovation Panel Wave 9 were invited to participate in the Spending Study. All eligible sample members were invited to participate, regardless of whether they have Internet access or access to a compatible mobile device. Sample members who were known to be long-term adamant refusals were not invited to the Spending Study. More details on the sample design of the *Understanding Society* Innovation Panel can be found in Lynn (2009) and in the *Understanding Society* Innovation Panel User Guide on <https://www.understandingsociety.ac.uk/documentation/innovation-panel/user-guide>. Sample members who had become ineligible between Innovation Panel Wave 9 and the Spending Study, either because they had moved out of the country or died, were removed from the Spending Study sample file.

### **4. Fieldwork**

#### *4.1 Participant communications*

##### **1. Invitation letter to registration survey**

The invitation letter contained the rationale for the study, information about incentives, a link to the registration survey as well as a section with Frequently Asked Questions (FAQ) on the back page. There was also a link to a more extensive FAQ website, which was updated as the study went along. A copy of the invitation letter can be found in Appendix B1 and the questions of the FAQ website in Appendix B12.

##### **2. Invitation email to registration survey**

Sample members whose email address was known also received an invitation to the Spending Study by email. The invitation email contained the rationale for the study, information about incentives, a link to the registration survey and a link to the FAQ website. A copy of the invitation email can be found in Appendix B2.

##### **3. Reminder email to registration survey**

A reminder email was sent twice per week for three weeks to sample members who had not completed the registration survey. A copy of the reminder email can be found in Appendix B3.

**4. *Reminder letter to registration survey***

A final reminder letter was sent by post after four weeks to sample members who had not participated in the registration survey. Half of the recipients of the reminder letter received an unconditional incentive of £5 (see section 4.2 *Incentives* for more details). A copy of the reminder letter can be found in Appendix B4 (with conditional incentive) and Appendix B5 (without conditional incentive).

**5. *Email acknowledgement sent upon completion of registration survey***

An email acknowledgement was sent to sample members upon completion of the registration survey. The email contained links to the app on the Apple App Store and the Google Play Store and log-in details to the app. A copy of the email acknowledgement can be found in Appendix B6.

**6. *App push notifications***

The app sent push notifications at 5pm each day to remind sample members to scan any receipts they might have or to report that they did not spend anything that day. The reminder text read: “Hello, just to remind you to let us know of any spending you’ve done today, or to let us know if you haven’t spent anything. Don’t forget – if you use the app to update us, you will earn 50p each day”.

**7. *Invitation email to end-of-week debrief survey***

An invitation email to the end-of-week debrief survey was sent every Monday morning of weeks 1-4 to sample members who had participated in the registration survey. The invitation email contained a link to the end-of-week survey, informed participants on how much incentives they had earned in the previous week, and showed their current reward balance. A copy of the invitation email can be found in Appendix B7 (for sample members who participated in the previous week) and Appendix B8 (for sample members who did not participate in the previous week).

**8. *Invitation email to end-of-project debrief survey***

An invitation email to the end-of-project debrief survey was sent on Monday morning of week 5 to sample members who had completed five weeks of the Spending Study. An invitation email was also sent to sample members who had not completed the registration



survey and hence did not participate in the Spending Study. A copy of the invitation emails can be found in Appendix B9, B10 and B11.

#### **9. *Reminder email to end-of-project debrief survey***

A reminder email to the end-of-project debrief survey was sent to sample members who had completed five weeks of the Spending Study but had not yet completed the end-of-project survey. The reminder was just a re-send of the original invitation email. The email was sent once per week for up to three weeks, depending on when the sample member started to participate; the end-of-project web survey was taken down on 9 January 2017.

#### **10. *End-of-project paper questionnaire***

An end-of-project paper questionnaire was sent by post at the end of the fieldwork period in January 2017 to sample members who had not completed the end-of-project online survey. The paper questionnaire matched the content of the online questionnaire and also had three versions: for *full participants*, *partial participants*, and *non-participants*. The questionnaires were sent with a Freepost return envelope, but did not contain any incentives.

### **4.2 *Incentives***

There were a number of incentives available on the Spending Study, with some being implemented experimentally.

#### **1. *Conditional incentive to complete registration survey and download app***

In the invitation letter and email, sample members were offered a conditional incentive of either £2 or £6 to complete the registration survey and download the app. The incentive group was randomly allocated at the household level, so that all adults within a household were offered the same amount. In addition, households were randomly allocated within the incentive groups of Innovation Panel (IP) Wave 9, so that within each IP9 incentive group, there was a roughly equal number of households in the £2 and the £6 groups. Analyses of the data showed that the value of this incentive did not have any effect on participation rates (see Jäckle et al 2017).

**2. *Unconditional incentive in reminder letter to complete registration survey and download app***

An unconditional £5 Love2Shop voucher was enclosed with the reminder letter to the registration survey for adults in half of households where no activity had yet been recorded. Adults in the other half of households were sent a reminder letter, but with no mention of an additional incentive. This incentive was added in an attempt to boost participant rates. Analyses of the data showed that this additional incentive did not have any effect on participation rates.

**3. *Conditional incentive to use app***

Sample members received a conditional incentive of 50p for every day on which they used the app, including uploading a receipt, recording spending without a receipt, or reporting that they did not spend anything that day.

**4. *Conditional incentive to complete end-of-week survey***

Sample members received a conditional incentive of 50p for each end-of-week survey completed. This incentive was added to the study after seeing a relatively low response to the first end-of-week survey, such that this incentive was paid for completing the end-of-week survey in weeks 2-4.

**5. *Conditional incentive to complete end-of-project survey***

Sample members received a conditional incentive of £3 for completing the end-of-project survey. The incentive was only offered for completing the end-of-project online questionnaire; there was no incentive for completing the postal version sent as a follow-up to non-respondents.

**6. *Bonus for using the app every day***

Sample members received a bonus of £10 if they used the app every day for at least 27 days. The advance letter promised this incentive if the app was used every day for the duration of the study, that is, for 31 days. Some flexibility was however introduced as participants sometimes uploaded receipts soon after midnight or the scan was only uploaded the next day.

Depending on the experimental treatment groups the maximum amount of incentives that could be earned was £43.50.

Kantar Worldpanel kept a record of all incentives. The weekly emails inviting participants to complete the end of week debrief surveys included a mention of the amount of rewards earned in the previous week and the current reward balance. The bonus for regular participation was calculated by the Institute for Social and Economic Research and added to the reward balance. Incentives were paid out in weekly batches at the end of fieldwork, using Love2Shop pre-activated gift cards sent via post. These gift cards are similar to the Love2Shop paper vouchers that were sent with half of the reminder letters to the registration survey. The cards were pre-activated so that participants could use them immediately, similar to paper vouchers, rather than having to activate them first.

*4.3 Data collection timeline*

The whole sample was invited to participate in the Spending Study at the same time, in late October 2016 after the end of fieldwork for *Understanding Society* Innovation Panel Wave 9. Since not everyone started to participate immediately, the responding sample sorted themselves into ‘batches’, depending on when they started. For example, those who started to participate on the day after receiving the invitation letter or email were in the first batch; those who started to participate after the first reminder email were in the second batch, and so on. This staggered start of fieldwork, along with the aim to get five weeks of data, meant that the end of the fieldwork was staggered. Most participants (224 out of 355 participants who completed the registration survey) started in the first week and were in the first batch; 35 participants were in the second batch; 33 people in the third batch. The reminder letter increased the number who started in the fourth batch (46 participants); and 17 participants were in the final batch.

**Table 1: Timeline of Spending Study 1 fieldwork (2016)**

Week	Day	Date	Action	Batch 1	Batch 2	Batch 3	Batch 4	Batch 5
	Fri	21-Oct	invitation email					
	Sat	22-Oct						
	Sun	23-Oct						
1	Mon	24-Oct	invitation letter					
	Tue	25-Oct						
	Wed	26-Oct						

	Thu	27-Oct						
	Fri	28-Oct	email reminder					
	Sat	29-Oct						
	Sun	30-Oct						
2	Mon	31-Oct		EWS				
	Tue	01-Nov	email reminder					
	Wed	02-Nov						
	Thu	03-Nov						
	Fri	04-Nov	email reminder					
	Sat	05-Nov						
	Sun	06-Nov						
3	Mon	07-Nov		EWS	EWS			
	Tue	08-Nov	email reminder					
	Wed	09-Nov						
	Thu	10-Nov						
	Fri	11-Nov	email reminder					
	Sat	12-Nov						
	Sun	13-Nov						
4	Mon	14-Nov	Reminder letter	EWS	EWS	EWS		
	Tue	15-Nov						
	Wed	16-Nov						
	Thu	17-Nov						
	Fri	18-Nov						
	Sat	19-Nov						
	Sun	20-Nov						
5	Mon	21-Nov		EWS	EWS	EWS	EWS	
	Tue	22-Nov						
	Wed	23-Nov						
	Thu	24-Nov						
	Fri	25-Nov						
	Sat	26-Nov						
	Sun	27-Nov						
6	Mon	28-Nov		EPS	EWS	EWS	EWS	EWS
	Tue	29-Nov						
	Wed	30-Nov						
	Thu	01-Dec						
	Fri	02-Dec						
	Sat	03-Dec						
	Sun	04-Dec						
7	Mon	05-Dec			EPS	EWS	EWS	EWS
	Tue	06-Dec						
	Wed	07-Dec						

	Thu	08-Dec			
	Fri	09-Dec			
	Sat	10-Dec			
	Sun	11-Dec			
8	Mon	12-Dec		EPS	EWS EWS
	Tue	13-Dec			
	Wed	14-Dec			
	Thu	15-Dec			
	Fri	16-Dec			
	Sat	17-Dec			
	Sun	18-Dec			
	Mon	19-Dec			EPS EWS
	Tue	20-Dec			
	Wed	21-Dec			
	Thu	22-Dec			
	Fri	23-Dec			
	Sat	24-Dec			
	Sun	25-Dec			EPS

Notes: EWS – end of week survey, EPS – end of project survey.

When invitations and reminders were sent out, some sample members communicated with the *Understanding Society* Participant Liaison Team via Freephone or email to opt-out of the Spending Study. These opt-out were recorded by the participant liaison team and passed on to Kantar Worldpanel, so that these sample members could be flagged on the sample file and were not sent any further email or postal reminders. There were 171 opt-outs and a further 43 cases where the Freepost envelope enclosed with the end-of-project paper questionnaire was returned with a note that the addressee was no longer at the address.

## 5. Data entry and coding of spending categories

If participants reported spending directly in the app they were asked to enter the value of the purchase and to select which of a list of ten categories of goods and services were included in that purchase (see screenshots of the app in User Guide Appendix C – App Screenshots). Based on the work carried out by the Institute for Fiscal Studies (d'Ardenne and Blake, 2012), the ten spending categories were:

- Food and groceries
- Clothes and footwear

- Transport costs, e.g. petrol, car maintenance, public transport costs
- Child costs, e.g. childcare, school equipment and fees
- Home improvements and household goods, e.g. DIY, gardening, furniture, white goods or electrical goods
- Health expenses, e.g. glasses, dental care, prescriptions, social care
- Socialising and hobbies, e.g. going out (restaurants, pub, cinema, theatre, concert), gym or club membership, arts and crafts, children's activities
- Other goods and services, e.g. books, magazines, DVDs, CDs, games, toys, beauty products, haircuts, manicures, massages
- Holidays
- Giving money or gifts to other people, e.g. money for children, gifts or money for relatives, donations to charity
- Other

For spending entered directly into the app no additional data entry or coding was necessary. The scanned images of shopping receipts however required additional processing and coding.

### ***Entry of shopping receipt data into database***

The data from the images of shopping receipts were manually entered into a database by Kantar Worldpanel. Shopping receipts contain both receipt-level data, including the name of the shop and the total amount, and item-level data, including the item description and the price of the item. For more information about the content of shopping receipts, please refer to the Spending Study 1 Codebook.

### ***Coding of items***

All items from receipts were coded to match the ten spending categories used in the direct entry section of the app: in a first pass automated coding was used to classify items; the automated classifications were then checked and updated manually.

We used *Volume D: Expenditure codes 2015-16* from the UK Living Cost and Food Survey (LCFS) User Guide (Office for National Statistics, 2017) as a starting point. This table includes a comprehensive list of consumer items classified according to the Classification of Individual Consumption by Purpose (COICOP) codes. We first classified the items according to the 10 categories used in the app. For each of the ten categories we then constructed an

array of words that consisted of each individual word from descriptions of items within the LCFS table that fell within that category. Where a word appeared in more than one array the word was assigned to that category in which it appeared in the most item descriptions. Two-hundred and seventy-seven common functional words (e.g. the, am, and, etc.) were removed from the arrays to try to reduce the chances of false positives.

The description of each item from receipts was parsed (i.e. words were split up) and compared to the ten arrays. Each item was then assigned to the category in which the most words matched.

The automated category assignments were then manually checked and updated. Table 2 documents the outcomes of this coding procedure: 1% of item descriptions were not codeable, 11% could not be coded automatically but were assigned a code manually, 11% were coded incorrectly by the automated procedures and corrected manually, and 77% of items were coded correctly by the automated procedure.

**Table 2: Summary of automated and manual coding of items in scanned receipts**

	N	%
Total items (5,541 receipts)	37,259	100
AC correct	28,672	77
AC incorrect – coded manually	4,024	11
AC incorrect – not codeable	543	1
AC not possible – coded manually	4,020	11

Notes: AC – Automated Coding

## 6. Overview of data files

This final section provides an overview of all datasets for the *Understanding Society* Spending Study 1. All datasets include the key linkage variables pidp (Innovation Panel cross-wave person identifier) and i\_hipd (Innovation Panel wave 9 household identifier).

Dataset	# Observations	Additional Key Linkage Variables
SCT: sample file	2,383 individuals	--

REG: registration survey	355 individuals	--
HDR: shopping receipt data: receipt-level	5,541 receipts	entryid – Scanning activity identifier
DTL: Shopping receipt data: item-level	37,259 items	entryid – Scanning activity identifier
APD: App paradata	11,551 app uses	entryid – Scanning activity identifier
EOW: End-of-week debrief surveys	835 individuals	--
EOP: End-of-project debrief survey	902 individuals	--

## 7. References

d'Ardenne, J. and Blake, M. (2012). Developing expenditure questions: Findings from focus groups. *IFS Working Paper W12/18*. <https://doi.org/10.1920/wp.ifs.2012.1218>.

Jäckle, A., Burton, J., Couper, M. P. and Lessof, C. (2017) Participation in a Mobile App survey to collect expenditure data as part of a large-scale probability household panel: response rates and response biases, *Understanding Society Working Paper 2017-09*. <https://www.understandingsociety.ac.uk/research/publications/524624>.

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## Appendix A. Questionnaires

### *A1. Registration survey*

#### **Intro.**

Thank you for participating in the *Understanding Society* Spending Study.

We are using this study to test a new way of collecting financial information that is less burdensome for you than detailed survey questions or keeping spending diaries.

We would like you to download an app, but first we would like to ask you a few questions about yourself to confirm your identity.

Please click Continue, below, to begin.

#### **Confirmation of identity.**

Hello [Forename] [Surname],

Your day and month of birth are [BirthDay] [BirthMonth].

Please confirm your year of birth below.

(Dropdown list)

#### **Confirmation of identity: failed.**

*Universe: if year of birth entered does not match with year of birth on records*

This year doesn't match what we have on our records.

If you think you may have made a mistake, please click 'Continue' to try again.

If you think that our records are wrong, please call <helpline>.

#### **Contact details.**

What is your e-mail address?

E-Mail address: (text field)

Confirm your E-Mail address: (text field)

What is your mobile phone number?

Please enter your mobile phone number in the answer box below.

(text field)

**Main consumer.**

Are you the person mainly responsible for buying goods and services in your household (excluding paying for rent, mortgage, and regular bills)?

Please select one answer.

Yes

No

Jointly responsible with someone else

**Frequency of purchases.**

How often do you spend money on goods and services?

Please select one answer.

Several times a day

About once a day

More than twice a week

Once or twice a week

Less than once a week

Never

Help text: Please report all money spent on buying goods and services – excluding mortgage or rent payments and regular bills (such as gas, electricity, water, Council Tax, TV, internet, telephone, mobile phone and household and car insurance) – but including money spent at a point of sale (e.g. store, petrol station, restaurant, etc), online, or for other purchase in cash, by cheque or one-off bank transfer (e.g. babysitter, workmen, vending machines, etc).

**Frequency of online purchases.**

How often, if at all, do you shop for any goods or services online?

Please select one answer.

Once a day or more

More than twice a week

Once or twice a week

Less than once a week but more than once a month

Once a month or less

Once or twice a year

Less than once a year or never

**Frequency of regular income: with partner**

*Universe: if has partner recorded at Innovation Panel Wave 9 survey*

How often do you, or [PartnerName] receive money on a regular basis from work, a pension or other income including benefits?

Please select one answer.

Once a week

Once a fortnight

Once a month

Other (Please specify): (text field)

No regular income

**Frequency of regular income: without partner**

*Universe: if has no partner recorded at Innovation Panel Wave 9 survey*

How often do you receive money on a regular basis from work, a pension or other income including benefits?

Please select one answer.

Once a week

Once a fortnight

Once a month

Other (Please specify): (text field)

No regular income

**Expected date: next payment of regular income**

*Universe: if Frequency of regular income <> No regular income // has regular income*

On what date are you expecting the next payment?

Please select a date below. (calendar field)

Don't know

**End.**

Thank you for completing this survey. Can you please now install the app that will be required for your participation in this project.

You can do this by clicking on the appropriate link below, or by searching for 'PanelSmart' in the relevant app store on your phone or tablet.

**Important: Your log-in ID for this app is <AppID>. Please make a note of this. No password is required.**

Android/Google Play Store:

<https://play.google.com/store/apps/details?id=com.lumi.kwpsmartpanel&hl=en>

Apple App Store: <https://itunes.apple.com/us/app/panelsmart/id900007535?mt=8>

You are welcome to practice submitting receipts in the app now, but please be aware you will not be paid for any images until the task starts.

## A2. End-of-week debrief surveys

Sent on Monday each week, to sample members who had completed the registration survey.

<i>Universe: if did not use app last week</i>	<i>Universe: if used app at least once last week</i>
<p><b>Intro: non-participant.</b> We would like to ask you a few questions about the week ending Sunday.</p> <p>We did not receive any information from you about your spending this week.</p> <p>If you have any receipts for the week or purchases without receipts, please enter them in the App now as we can still include them in the study.</p> <p>Please contact us on [helpline] or <a href="mailto:contact@understandingsociety.ac.uk">contact@understandingsociety.ac.uk</a> if you have any questions about using the app.</p> <p>Please click Continue, below, to begin.</p>	<p><b>Intro: participant.</b> We would like to ask you a few questions about the week ending Sunday.</p> <p>If you have any other receipts you would like to scan please do that first and then answer the following questions.</p> <p>Please click Continue, below, to begin.</p>
	<p><b>Incentive update.</b> Thank you for taking part in the Understanding Society Spending Study.</p> <p>You have earned an additional £ [WeeklyIncentives] last week and your current balance is £ [TotalIncentives].</p>
<p><b>Estimated total spending on goods and services last week: non-participant.</b> What would you say is the total amount of money you spent on goods</p>	<p><b>Estimated total spending on goods and services last week: participant.</b> What would you say is the total amount of money you spent on goods</p>

<p>and services in the week ending Sunday, excluding rent and mortgage payments and regular bills? Please round your answer to the nearest pound. Please answer in the text box below.</p> <p>£ (text box)</p> <p>Help text: Please include all purchases at a point of sale (e.g. store, petrol station, restaurant, etc), online, and other purchases in cash, by cheque or one-off bank transfer (e.g. babysitter, workmen, vending machines, etc).</p>	<p>and services in the week ending Sunday, excluding rent and mortgage payments and regular bills, but including what you have already reported and any other purchases you did not tell us about? Please round your answer to the nearest pound. Please answer in the text box below.</p> <p>£ (text box)</p> <p>Help text: Please include all purchases at a point of sale (e.g. store, petrol station, restaurant, etc), online, and other purchases in cash, by cheque or one-off bank transfer (e.g. babysitter, workmen, vending machines, etc).</p>
	<p><b>Estimated total spending reported last week.</b> And what is your estimate of how much you reported to us in the week ending Sunday? Please answer in the box below.</p> <p>£ (text box)</p>
<p><b>Estimated total spending of partner last week</b> <i>Universe: if has partner recorded at Innovation Panel Wave 9 survey</i> How much do you estimate that [PartnerName] spent on goods and services in the week ending Sunday? Please answer in the box below.</p> <p>£ (text box)</p>	<p><b>Estimated total spending of partner last week.</b> <i>Universe: if has partner recorded at Innovation Panel Wave 9 survey</i> How much do you estimate that [PartnerName] spent on goods and services in the week ending Sunday? Please answer in the box below.</p> <p>£ (text box)</p>
<p><b>Ease of completion.</b> How easy or difficult did you find completing the Spending Study this week?</p>	<p><b>Ease of completion.</b> How easy or difficult did you find completing the Spending Study this week?</p>

<p>Please select one answer.</p> <p>Very difficult Somewhat difficult Somewhat easy Very easy</p>	<p>Please select one answer.</p> <p>Very difficult Somewhat difficult Somewhat easy Very easy</p>
<p><b>Difficulties reporting spending.</b> <i>Universe: if end of week=1</i> What difficulties, if any, did you have reporting your spending? Please select all that apply.</p> <p>Not willing to share spending information Scanning used too much data My camera did not work Not confident that information would be held securely Not confident using my phone or tablet for this kind of activity Scanning took too much time Had difficulty using the app Lost or could not find receipts Forgot to scan Not interested Did not have time to scan Other (Please specify): (text field) No difficulties</p>	<p><b>Difficulties reporting spending.</b> <i>Universe: if end of week=1</i> What difficulties, if any, did you have reporting your spending? Please select all that apply.</p> <p>Not willing to share spending information Scanning used too much data My camera did not work Not confident that information would be held securely Not confident using my phone or tablet for this kind of activity Scanning took too much time Had difficulty using the app Lost or could not find receipts Forgot to scan Not interested Did not have time to scan Other (Please specify): (text field) No difficulties</p>
	<p><b>Estimated time.</b> In total, how many minutes do you think it took you this week to tell us about your spending, including scanning receipts and answering questions in the app?</p>

	<p>Please fill in your answer below.</p> <p>(text box) minutes</p>
<p><b>End: non-participant.</b>  <i>Universe: if end of week=1 thru 4</i>  Thank you for taking part in the Spending Study.</p> <p>Please remember to scan your receipts and tell us about your spending in the coming week.</p> <p>You will continue to earn 50p a day amounting to a £3.50 weekly incentive.</p>	<p><b>End: participant.</b>  <i>Universe: if end of week=1 thru 4</i>  Thank you for taking part in the Spending Study.</p> <p>Please remember to scan your receipts and tell us about your spending in the coming week.</p> <p>You will continue to earn 50p a day amounting to a £3.50 weekly incentive.</p>
<p><b>End: non-participant.</b>  <i>Universe: if week=5</i>  Thank you for taking part in the Spending Study.</p> <p>You will still be able to provide information about your week's spending for a few days.</p>	<p><b>End: participant.</b>  <i>Universe: if week=5</i>  Thank you for taking part in the Spending Study.</p> <p>You will still be able to provide information about your week's spending for a few days.</p>



### A3. End-of-project debrief survey

<p><i>Universe: if did not download app (non-participant)</i></p>	<p><i>Universe: if downloaded app but did not use it in week 5 (partial participant)</i></p>	<p><i>Universe: if downloaded app and used it in week 5 (full participant)</i></p>
<p><b>Intro: non-participant.</b>  <i>Universe: if mode = web // completes end-of-project web survey</i>          We would like to ask you some quick questions about your reactions to the <i>Understanding Society</i> Spending Study.</p>	<p><b>Intro 1: partial participant.</b>  <i>Universe: if mode = web // completes end-of-project web survey</i>          We would like to ask you about your reactions to the Understanding Society Spending Study. This will only take five minutes of your time.</p>	<p><b>Intro 1: full participant.</b>  <i>Universe: if mode = web // completes end-of-project web survey</i>          We would like to ask you about your reactions to the Understanding Society Spending Study. This will only take five minutes of your time.</p>
<p><b>Main consumer: non-participant.</b>          Are you the person mainly responsible for buying goods and services in your household (excluding paying for rent, mortgage and regular bills)?          {if mode=web: Please select one answer.}          {if mode=paper: Please tick one answer.}</p> <p>Yes          No          Jointly responsible with someone else</p>		
<p><b>Frequency of purchases: non-participant.</b>          How often do you spend money on goods and services?          {if mode=web: Please select one answer.}          {if mode=paper: Please tick one answer.}</p> <p>Several times a day</p>		

<p>About once a day  More than twice a week  Once or twice a week  Less than once a week  Never</p> <p>Help text: Please report all money spent on buying goods and services – excluding mortgage or rent payments and regular bills (such as gas, electricity, water, Council Tax, TV, internet, telephone, mobile phone and household and car insurance) – but including money spent at a point of sale (e.g. store, petrol station, restaurant, etc), online, or for other purchase in cash, by cheque or one-off bank transfer (e.g. babysitter, workmen, vending machines, etc).</p>		
<p><b>Frequency of online purchases: non-participant.</b>  <i>Universe: if mode = web // completes end-of-project web survey</i>  How often, if at all, do you shop for any goods or services online?  Please select one answer.</p> <p>Once a day or more  More than twice a week  Once or twice a week</p>		

<p>Less than once a week but more than once a month</p> <p>Once a month or less</p> <p>Once or twice a year</p> <p>Less than once a year or never</p>		
	<p><b>Intro 2: partial participant.</b>  <i>Universe: if mode = web // completes end-of-project web survey</i>  We did not receive any information from you about your spending this week.</p> <p>If you have any receipts for the week or purchases without receipts, please enter them in the App now as we can still include them in the study.</p> <p>Please contact us on [helpline] or <a href="mailto:contact@understandingsociety.ac.uk">contact@understandingsociety.ac.uk</a> if you have any questions about using the app.</p>	<p><b>Intro 2: full participant.</b>  We will first ask you a few questions about the last week.</p> <p>If you have any other receipts you would like to scan please do that first and then answer the following questions.</p> <p>Please click Continue, below, to begin.</p>
		<p><b>Incentive update.</b>  <i>Universe: if mode = web // completes end-of-project web survey</i>  Thank you for taking part in the Understanding Society Spending Study.</p> <p>You have earned an additional £ [WeeklyIncentives] incentive this week and your current balance is £ [TotalIncentives].</p>

	<p><b>Estimated total spending on goods and services last week: partial participant.</b>  <i>Universe: if mode = web // completes end-of-project web survey</i></p> <p>What would you say is the total amount of money you spent on goods and services <b>in the week ending Sunday</b>, excluding rent and mortgage payments and regular bills?  Please round your answer to the nearest pound.  Please answer in the text box below.</p> <p>£ (text box)</p> <p>Help text: Please include all purchases at a point of sale (e.g. store, petrol station, restaurant, etc), online, and other purchases in cash, by cheque or one-off bank transfer (e.g. babysitter, workmen, vending machines, etc).</p>	<p><b>Estimated total spending on goods and services last week: full participant.</b>  <i>Universe: if mode = web // completes end-of-project web survey</i></p> <p>What would you say is the total amount of money you spent on goods and services <b>in the week ending Sunday</b>, excluding rent and mortgage payments and regular bills, but including what you have already reported and any other purchases you did not tell us about?  Please round your answer to the nearest pound.  Please answer in the next box below.</p> <p>£ (text box)</p> <p>Help text: Please include all purchases at a point of sale (e.g. store, petrol station, restaurant, etc), online, and other purchases in cash, by cheque or one-off bank transfer (e.g. babysitter, workmen, vending machines, etc).</p>
		<p><b>Estimated total spending reported last week.</b>  <i>Universe: if mode = web // completes end-of-project web survey</i></p> <p>And what is your estimate of how much you reported to us in the week ending Sunday?  Please answer in the box below.</p> <p>£ (text box)</p>

	<p><b>Estimated total spending of partner last week.</b>  <i>Universe: if has partner recorded at Innovation Panel Wave 9 survey and mode = web // completes end-of-project web survey</i>  How much do you estimate that [PartnerName] spent on goods and services in the last week?  Please answer in the box below.</p> <p>£ (text box)</p>	<p><b>Estimated total spending of partner last week.</b>  <i>Universe: if has partner recorded at Innovation Panel Wave 9 survey and mode = web // completes end-of-project web survey</i>  How much do you estimate that [PartnerName] spent on goods and services in the last week?  Please answer in the box below.</p> <p>£ (text box)</p>
		<p><b>Ease of completion.</b>  <i>Universe: if mode = web // completes end-of-project web survey</i>  How easy or difficult did you find completing the Spending Study this week?  Please select one answer.</p> <p>Very difficult  Somewhat difficult  Somewhat easy  Very easy</p>
		<p><b>Estimated time.</b>  <i>Universe: if mode = web // completes end-of-project web survey</i>  In total, how many minutes do you think it took you this week to tell us about your spending, including scanning receipts and answering questions in the app?</p>

		Please fill in your answer below  (text box) minutes
	<p><b>Likelihood of participation.</b> Imagine you were being asked to do this Spending Study for the first time. Based on your experience, how likely would you be to participate? {if mode=paper: Please tick one answer.}</p> <p>Very likely Somewhat likely Somewhat unlikely Very unlikely</p>	<p><b>Likelihood of participation.</b> Imagine you were being asked to do this Spending Study for the first time. Based on your experience, how likely would you be to participate? {if mode=paper: Please tick one answer.}</p> <p>Very likely Somewhat likely Somewhat unlikely Very unlikely</p>
	<p><b>Time and effort of participation well spent.</b> Overall do you feel that the time and effort you put into participating in the Spending Study was... {if mode=paper: Please tick one answer.}</p> <p>Very well spent Somewhat well spent Not very well spent</p>	<p><b>Time and effort of participation well spent.</b> Overall do you feel that the time and effort you put into participating in the Spending Study was... {if mode=paper: Please tick one answer.}</p> <p>Very well spent Somewhat well spent Not very well spent</p>
	<p><b>Participation was interesting.</b> Overall how interesting was participating in the Spending Study? {if mode=paper: Please tick one answer.}</p>	<p><b>Participation was interesting.</b> Overall how interesting was participating in the Spending Study? {if mode=paper: Please tick one answer.}</p>

	<p>Very interesting Somewhat interesting Not interesting</p>	<p>Very interesting Somewhat interesting Not interesting</p>
	<p><b>Quality of reporting.</b> We would like to understand how accurately you feel you were able to report your spending. On a scale from 0 to 100 where 0 is “none” and 100 is “all”...</p> <p>On days when you used the app to scan receipts or submit purchases, what proportion of your spending do you think you told us about? (text box)</p> <p>For what proportion of purchases for which you could have got a receipt do you think you actually got a receipt? (text box)</p> <p>What proportion of your receipts do you think you scanned? (text box)</p> <p>What proportion of the purchases without receipts do you think you entered into the app? (text box)</p>	<p><b>Quality of reporting.</b> We would like to understand how accurately you feel you were able to report your spending. On a scale from 0 to 100 where 0 is “none” and 100 is “all”</p> <p>On days when you used the app to scan receipts or submit purchases, what proportion of your spending do you think you told us about? (text box)</p> <p>For what proportion of purchases for which you could have got a receipt do you think you actually got a receipt? (text box)</p> <p>What proportion of your receipts do you think you scanned? (text box)</p> <p>What proportion of the purchases without receipts do you think you entered into the into the app?</p>
	<p><b>Days with unreported purchases.</b> On how many days in the last month do you</p>	<p><b>Days with unreported purchases.</b> On how many days in the last month do you</p>

	<p>think you made purchases but did not report any in the app? Please fill in your answer below.</p> <p>(text box)</p>	<p>think you made purchases but did not report any in the app? Please fill in your answer below.</p> <p>(text box)</p>
<p><b>Estimated total spending on goods and services last month: non-participant.</b> <i>Universe: if mode = web // completes end-of-project web survey</i></p> <p>What would you say is the total amount of money you {if has partner: and your partner} spent on goods and services <b>in the month ending Sunday</b>, excluding rent and mortgage payments and regular bills? Please answer to the nearest pound. Please include all purchases at a point of sale (e.g. store, petrol station, restaurant, etc), online, and other purchases in cash, by cheque or one-off bank transfer (e.g. babysitter, workmen, vending machines, etc). Please fill in your answer below.</p> <p>£ (text box)</p>	<p><b>Estimated total spending on goods and services last month: partial participant.</b> <i>Universe: if mode = web // completes end-of-project web survey</i></p> <p>What would you say is the total amount of money you {if has partner: and your partner} spent on goods and services <b>in the month ending Sunday</b>, excluding rent and mortgage payments and regular bills, but including what you have already reported and any other purchases you did not tell us about? Please answer to the nearest pound. Please include all purchases at a point of sale (e.g. store, petrol station, restaurant, etc), online, and other purchases in cash, by cheque or one-off bank transfer (e.g. babysitter, workmen, vending machines, etc). Please fill in your answer below.</p> <p>£ (text box)</p>	<p><b>Estimated total spending on goods and services last month: participant.</b> <i>Universe: if mode = web // completes end-of-project web survey</i></p> <p>What would you say is the total amount of money you {if has partner: and your partner} spent on goods and services <b>in the month ending Sunday</b>, excluding rent and mortgage payments and regular bills, but including what you have already reported and any other purchases you did not tell us about? Please answer to the nearest pound. Please include all purchases at a point of sale (e.g. store, petrol station, restaurant, etc), online, and other purchases in cash, by cheque or one-off bank transfer (e.g. babysitter, workmen, vending machines, etc). Please fill in your answer below.</p> <p>£ (text box)</p>
	<p><b>Estimated total spending reported last month.</b> <i>Universe: if mode = web // completes end-of-</i></p>	<p><b>Estimated total spending reported last month.</b> <i>Universe: if mode = web // completes end-of-</i></p>



	<p><i>project web survey</i></p> <p>And what is your estimate of how much you reported to us in the month ending Sunday?</p> <p>£ (text box)</p>	<p><i>project web survey</i></p> <p>And what is your estimate of how much you reported to us in the month ending Sunday?</p> <p>£ (text box)</p>
	<p><b>Ease of completion.</b></p> <p>Overall, how easy or difficult did you find completing the Spending Study? {if mode=paper: Please tick one answer.}</p> <p>Very easy Somewhat easy Somewhat difficult Very difficult</p>	<p><b>Ease of completion.</b></p> <p>Overall, how easy or difficult did you find completing the Spending Study? {if mode=paper: Please tick one answer.}</p> <p>Very easy Somewhat easy Somewhat difficult Very difficult</p>
<p><b>Main reason for not participating.</b></p> <p>What was the main reason you did not participate in the Spending Study? (text box)</p>	<p><b>Main reason for stopping to participate.</b></p> <p>What was the main reason you stopped participating in the Spending Study? (text box)</p>	
<p><b>Difficulties to participate #1.</b></p> <p>When deciding whether to participate in the Spending Study, which of the following difficulties did you have? {if mode=paper: Please tick all that apply.}</p> <p>Do not have a smartphone or tablet which can download apps Do not have access to the internet on my phone or tablet</p>	<p><b>Difficulties reporting spending.</b></p> <p>What difficulties, if any, did you have reporting your spending? {if mode=paper: Please tick all that apply.}</p> <p>Not confident using my phone or tablet for this kind of activity Not confident that information would be held securely Forgot to scan</p>	<p><b>Difficulties reporting spending.</b></p> <p>What difficulties, if any, did you have reporting your spending? {if mode=paper: Please tick all that apply.}</p> <p>Not confident using my phone or tablet for this kind of activity Not confident that information would be held securely Forgot to scan</p>

<p>Did not have sufficient storage space to download the app          Could not download the app because it was not compatible with the operating system of my device          Could not find the app in the app store          Link to downloading the app did not work          Other (Please specify): (text field)          None of the above</p>	<p>Not willing to share spending information          Did not have time to scan          Had difficulty using the app          Scanning took too much time          Lost or could not find receipts          Scanning used too much data          My camera did not work          Not interested          Other (Please specify): (text field)          No difficulties</p>	<p>Not willing to share spending information          Did not have time to scan          Had difficulty using the app          Scanning took too much time          Lost or could not find receipts          Scanning used too much data          My camera did not work          Not interested          Other (Please specify): (text field)          No difficulties</p>
<p><b>Difficulties to participate #2.</b>          And which of the following applied to you?</p> <p>Not able or confident to download apps onto my phone or tablet          Not confident using my phone or tablet for this kind of activity          Did not try to download the app          Not confident that information would be held securely          Not willing to share spending information          Not interested          Did not have time to scan          Other (Please specify): (text field)          None of the above</p>		
	<p><b>Comments.</b>  <i>Universe: if mode = web // completes end-of-project web survey</i></p>	<p><b>Comments.</b>  <i>Universe: if mode = web // completes end-of-project web survey</i></p>

	Do you have any comments on your experience of taking part in the Spending Study?  (text box)	Do you have any comments on your experience of taking part in the Spending Study?  (text box)
<b>End: non-participant.</b> <i>Universe: if mode = web // completes end-of-project web survey</i> Thank you for feedback on the <i>Understanding Society</i> Spending Study.	<b>End: partial participant.</b> <i>Universe: if mode = web // completes end-of-project web survey</i> Thank you for participating in the <i>Understanding Society</i> Spending Study.	<b>End: full participant.</b> <i>Universe: if mode = web // completes end-of-project web survey</i> Thank you for participating in the <i>Understanding Society</i> Spending Study.

## Appendix B. Participant communication

### *B1. Invitation letter to registration survey and download app*

{ff\_ttl} {ff\_forename} {ff\_surname}  
{ff\_ind\_address1}  
{ff\_ind\_address2}  
{ff\_ind\_address3}  
{ff\_ind\_address4}  
{ff\_ind\_address5}  
{ff\_ind\_postcode}

{anon\_id}  
October 2016

Dear {ff\_ttl} {ff\_forename} {ff\_surname},

Thank you for your continued support on *Understanding Society*. We greatly value your contribution. An important part of our study is collecting information on how people are getting by financially these days. This information is crucial to help researchers understand factors that affect our income and spending, but also how our financial situation affects other parts of our lives, such as our health and life satisfaction.

During the last interview, we asked you some new questions in order to better understand how you manage your finances. We are now inviting you to participate in the ***Understanding Society Spending Study*** which trials new ways of collecting financial data that are less burdensome for you than detailed survey questions.

We would like you to download the **PanelSmart** app onto your smartphone or tablet, if you have one. When you buy something, we would like you to use the app to take a picture of the receipt. It should only take a few seconds each time you shop. Your personal and shopping data will remain confidential.

To participate in this new study, please visit the website below. After you answer 5 quick questions, you will be given information on how to download the **PanelSmart** app.

**[https://new.nsm-quest.com/uc/essex/?code={anon\\_id}](https://new.nsm-quest.com/uc/essex/?code={anon_id})**

To thank you for your help with the study, we would like to offer you a welcome reward of £{incent} if you download and register with the app. For each day of activity, we will add 50p to your reward balance. If you're able to take part each day for a month, you will receive an additional bonus of £10. At the end of the survey period, if you answer a small set of questions about your experience with the app, you'll earn another £3. If you're able to participate each day, you can earn up to £{incentot}. We will send you weekly updates to let you know how much you have earned and will send you a Love2Shop gift card for that amount at the end of the study.

For more information, please see the FAQ on the back of this letter or at <https://www.understandingsociety.ac.uk/participants/receipts>

Thank you,

Professor Michaela Benzeval,  
Institute for Social and Economic Research  
University of Essex

### **What do you want me to do?**

Download an app to your smartphone or tablet, and when you buy something, use it to take a picture of your receipt and the app will send it to us. If you spend some money and don't get a receipt, or you did not spend anything in a particular day, you can record that using the app as well. We would like you to use the app to send us pictures of your receipts for a month.

### **What about online purchases?**

If you get a receipt from the online purchase (e.g., such as supermarket online shopping), you can scan that as normal. Otherwise, you can let us know about spending where you did not get a receipt using the app.

### **Where can I get the app?**

The app is called **PanelSmart** and is available from the Apple App Store and the Google Play app store for Android.

### **How long will it take?**

It only takes a few seconds each time to use the app, photograph a receipt and send it to us.

### **What do I get?**

As a token of our appreciation for your help, we will reward you for your participation. We will keep track of your reward account, and when you download and install the app, we will add your welcome reward to your account. Each day that you use the app, even if it's to tell us you didn't spend anything that day, we will add 50p to your account. At the end of 31 days, if you have been active every day, you will get a bonus of £10. If you also answer a short survey about your experiences using the app, you will earn another £3. We will then send you a Love2Shop gift card for the amount of your reward. You can use the gift card in a large number of shops, see <https://www.highstreetvouchers.com/gift/where-to-spend-love2shop-cards>

### **What happens with my information?**

The items bought, and the cost, will be coded into categories, such as "food", "health and beauty", "household cleaning" and so on. The information on the name of the shop and the date and time of the purchase will also be recorded. At no point will researchers have access to any of your personal information. The data that are made available to researchers will only include the anonymised summary information from the receipt, such as the total spent on "food", but no information on the individual items. The information provided will only be used for academic research purposes.

## ***B2. Invitation email to registration survey and download app***

Dear {ff\_ttl} {ff\_forename} {ff\_surname}

Thank you for being part of *Understanding Society*.

An important part of our study is collecting information on how people are getting by financially these days. This information is crucial to help researchers understand factors that affect our income and spending, but also how our financial situation affects other parts of our lives, such as our health and life satisfaction.

You may have recently received a letter from us inviting you to participate in the *Understanding Society* Spending Study which aims to trial new ways of collecting financial data that are less burdensome for you than detailed survey questions.

We would like you to download the PanelSmart app onto your smartphone or tablet, if you have one. When you buy something, we would like you to use the app to take a picture of the receipt. It should only take a few seconds each time you shop. Your personal and shopping data will remain confidential.

To participate in this new study, please visit the website below. After you answer a few quick questions, you will be given information on how to download the PanelSmart app.



To thank you for your help with the study, we would like to offer you a welcome reward of £{incent} if you download and register with the app. For each day of activity, we will add 50p to your reward balance. If you're able to take part each day for a month, you will receive an additional bonus of £10. At the end of the survey period, if you answer a small set of questions about your experience with the app, you'll earn another £3. If you're able to participate each day, you can earn up to £{incentot}.

We will send you weekly updates to let you know how much you have earned and will send you a Love2Shop gift card for that amount at the end of the study.

For more information, please see the [FAQ](#).

Thank you,

Professor Michaela Benzeval,  
Institute for Social and Economic Research  
University of Essex

### ***B3. Reminder email to registration survey***

Dear {ff\_ttl} {ff\_forename} {ff\_surname}

Thank you for being part of *Understanding Society*.

We recently emailed to ask you if you would like to take part in the Understanding Society Spending Study. This is a research project which is trialling new ways of collecting information on spending that are easier than detailed questions. There is still time to take part.

We would like you to download an app onto your smartphone or tablet, if you have one. When you buy something, we would like you to use the app to take a picture of the receipt. If you would like to participate in this new study, please visit the click the button below. After you answer a few quick questions, you will be given information on how to download the app.



To thank you for your help with the study, we would like to offer you a welcome reward of £{incent} if you download and register with the app. For each day of activity, we will add 50p to your reward balance. If you're able to take part each day for a month, you will receive an additional bonus of £10. At the end of the survey period, if you answer a small set of questions about your experience with the app, you'll earn another £3. If you're able to participate each day, you can earn up to £{incentot}.

For more information, please see the [FAQ](#).

Thank you,

Professor Michaela Benzeval,  
Institute for Social and Economic Research  
University of Essex

#### ***B4. Reminder letter to registration survey (with unconditional incentive)***

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<<ff\_ind\_postcode>>

<<anon\_id>>  
November 2016

Dear <<ff\_ttl>> <<ff\_forename>> <<ff\_surname>>,

#### **It's not too late to help us with the Understanding Society Spending Study!**

We recently wrote to you to invite you to take part in the Understanding Society Spending Study. This is a trial of a new way of collecting financial data that are less burdensome for you than detailed survey questions.

We would like you to download the **PanelSmart** app onto your Android or Apple (iOS) smartphone or tablet, if you have one. When you buy something, we would like you to use the app to take a picture of the receipt. It should only take a few seconds each time you shop. Your personal and shopping data will remain confidential.

#### **As a token of our appreciation for your help, we enclose a £5 Love2Shop voucher.**

To participate in this new study, please visit the website below. After you answer 5 quick questions, you will be given information on how to download the **PanelSmart** app.

**[https://new.nsm-quest.com/uc/essex/?code=<<anon\\_id>>](https://new.nsm-quest.com/uc/essex/?code=<<anon_id>>)**

You will then be given the link to the App Store, and your unique app log-in code. You do not need a password for the app.

To thank you for your help with the study, we would like to offer you a welcome reward of £<<incent>> if you download and register with the app. For each day of activity, we will add 50p to your reward balance. If you're able to take part each day for a month, you will receive an additional bonus of £10. At the end of the survey period, if you answer a small set of questions about your experience with the app, you'll earn another £3. If you're able to participate each day, you can earn up to £<<incentot>>. We will send you weekly updates to let you know how much you have earned and will send you a Love2Shop gift card for that amount at the end of the study.

For more information, please see the FAQ on the back of this letter or at <https://www.understandingsociety.ac.uk/participants/receipts>

Thank you,

Professor Michaela Benzeval,  
Institute for Social and Economic Research  
University of Essex



### **What do you want me to do?**

Download an app to your Android/Apple (iOS) smartphone or tablet, and when you buy something, use it to take a picture of your receipt and the app will send it to us. If you spend some money and don't get a receipt, or you did not spend anything in a particular day, you can record that using the app as well. We would like you to use the app to send us pictures of your receipts for a month.

### **What about online purchases?**

If you get a receipt from the online purchase (e.g., such as supermarket online shopping), you can scan that as normal. Otherwise, you can let us know about spending where you did not get a receipt using the app.

### **Where can I get the app?**

The app is called **PanelSmart** and is available from the Apple App Store and the Google Play app store for Android. After you complete the short online survey, you will see the links to the App stores, as well as your unique app log-in. You do not need to use a password when you use the app.

### **How long will it take?**

It only takes a few seconds each time to use the app, photograph a receipt and send it to us.

### **What do I get?**

As a token of our appreciation for your help, we will reward you for your participation. We will keep track of your reward account, and when you download and install the app, we will add your welcome reward to your account. Each day that you use the app, even if it's to tell us you didn't spend anything that day, we will add 50p to your account. At the end of 31 days, if you have been active every day, you will get a bonus of £10. If you also answer a short survey about your experiences using the app, you will earn another £3. We will then send you a Love2Shop gift card for the amount of your reward. You can use the gift card in a large number of shops, see

<https://www.highstreetvouchers.com/gift/where-to-spend-love2shop-cards>

### **What happens with my information?**

The items bought, and the cost, will be coded into categories, such as "food", "health and beauty", "household cleaning" and so on. The information on the name of the shop and the date and time of the purchase will also be recorded. At no point will researchers have access to any of your personal information. The data that are made available to researchers will only include the anonymised summary information from the receipt, such as the total spent on "food", but no information on the individual items. The information provided will only be used for academic research purposes.

## ***B5. Reminder letter to registration survey (without unconditional incentive)***

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<<ff\_ind\_address5>>  
<<ff\_ind\_postcode>>

<<anon\_id>>  
November 2016

Dear <<ff\_ttl>> <<ff\_forename>> <<ff\_surname>>,

### **It's not too late to help us with the Understanding Society Spending Study!**

We recently wrote to you to invite you to take part in the Understanding Society Spending Study. This is a trial of a new way of collecting financial data that are less burdensome for you than detailed survey questions.

We would like you to download the **PanelSmart** app onto your Android or Apple (iOS) smartphone or tablet, if you have one. When you buy something, we would like you to use the app to take a picture of the receipt. It should only take a few seconds each time you shop. Your personal and shopping data will remain confidential.

To participate in this new study, please visit the website below. After you answer 5 quick questions, you will be given information on how to download the **PanelSmart** app.

**[https://new.nsm-quest.com/uc/essex/?code=<<anon\\_id>>](https://new.nsm-quest.com/uc/essex/?code=<<anon_id>>)**

You will then be given the link to the App Store, and your unique app log-in code. You do not need a password for the app.

To thank you for your help with the study, we would like to offer you a welcome reward of £<<incent>> if you download and register with the app. For each day of activity, we will add 50p to your reward balance. If you're able to take part each day for a month, you will receive an additional bonus of £10. At the end of the survey period, if you answer a small set of questions about your experience with the app, you'll earn another £3. If you're able to participate each day, you can earn up to £<<incentot>>. We will send you weekly updates to let you know how much you have earned and will send you a Love2Shop gift card for that amount at the end of the study.

For more information, please see the FAQ on the back of this letter or at <https://www.understandingsociety.ac.uk/participants/receipts>

Thank you,

Professor Michaela Benzeval,  
Institute for Social and Economic Research  
University of Essex

### **What do you want me to do?**

Download an app to your Android/Apple (iOS) smartphone or tablet, and when you buy something, use it to take a picture of your receipt and the app will send it to us. If you spend some money and don't get a receipt, or you did not spend anything in a particular day, you can record that using the app as well. We would like you to use the app to send us pictures of your receipts for a month.

### **What about online purchases?**

If you get a receipt from the online purchase (e.g., such as supermarket online shopping), you can scan that as normal. Otherwise, you can let us know about spending where you did not get a receipt using the app.

### **Where can I get the app?**

The app is called **PanelSmart** and is available from the Apple App Store and the Google Play app store for Android. After you complete the short online survey, you will see the links to the App stores, as well as your unique app log-in. You do not need to use a password when you use the app.

### **How long will it take?**

It only takes a few seconds each time to use the app, photograph a receipt and send it to us.

### **What do I get?**

As a token of our appreciation for your help, we will reward you for your participation. We will keep track of your reward account, and when you download and install the app, we will add your welcome reward to your account. Each day that you use the app, even if it's to tell us you didn't spend anything that day, we will add 50p to your account. At the end of 31 days, if you have been active every day, you will get a bonus of £10. If you also answer a short survey about your experiences using the app, you will earn another £3. We will then send you a Love2Shop gift card for the amount of your reward. You can use the gift card in a large number of shops, see <https://www.highstreetvouchers.com/gift/where-to-spend-love2shop-cards>

### **What happens with my information?**

The items bought, and the cost, will be coded into categories, such as "food", "health and beauty", "household cleaning" and so on. The information on the name of the shop and the date and time of the purchase will also be recorded. At no point will researchers have access to any of your personal information. The data that are made available to researchers will only include the anonymised summary information from the receipt, such as the total spent on "food", but no information on the individual items. The information provided will only be used for academic research purposes.

***B6. Email acknowledgement sent upon completion of registration survey***

Dear {ff\_ttl} {ff\_forename} {ff\_surname},

Thank you for registering to be part of this *Understanding Society* study.

For your reference in case you need it, your log-in ID for the app for this project is <anon\_id>.

No password is required – please leave that blank.

The app can be found at either of the following links:

[Android/Google Play Store](#)

[Apple App Store](#)

Thank you,

Professor Michaela Benzeval,  
Institute for Social and Economic Research  
University of Essex

***B7. Invitation email to end-of-week debrief survey (participated last week)***

Dear {ff\_ttl} {ff\_forename} {ff\_surname},

Thank you for your help so far with the *Understanding Society* receipt scanning project.

Last week, you submitted purchasing or told us you hadn't bought anything on <scancountw> days. If you have any other receipts from last week, please scan them. If you have spent money and did not get a receipt, you can tell us about that using the app.

We have credited your reward account with £<weeklyincentives>. Your reward account balance now stands at £<totalincentives>.

We would like to ask you some further questions about your purchasing in the last week, and your experience on the panel. If you're able to answer these, we will add 50p to your reward balance.

Please [click here to access this week's survey](#).

Thanks for your help so far, please continue scanning all receipts you get in the next week to increase your reward account.

Professor Michaela Benzeval,  
Institute for Social and Economic Research  
University of Essex

***B8. Invitation email to end-of-week debrief survey (did not participate last week)***

Dear {ff\_ttl} {ff\_forename} {ff\_surname},

Thank you for downloading the app for the Understanding Society receipt scanning project.

According to our records, last week you did not scan any receipts. If you have any receipts from last week, please scan them. If you have spent money and did not get a receipt, you can tell us about that using the app.

If you need help with the app or getting started, please contact us on [contact@understandingsociety.ac.uk](mailto:contact@understandingsociety.ac.uk).

We would still like to ask you some further questions about your purchasing in the last week, and your experience on the panel. If you're able to answer these, we will add 50p to your reward balance.

Please [click here to access this week's survey](#).

Your help is very important to us.

Professor Michaela Benzeval,  
Institute for Social and Economic Research  
University of Essex

***B9. Invitation email to end-of-project debrief survey (full participant)***

Dear {ff\_ttl} {ff\_forename} {ff\_surname},

Thank you very much for your help with the Understanding Society spending survey. We hope that you found taking part interesting. This part of the survey has come to an end now, but we would like to ask you a few questions about your experiences taking part in this – it is the first time we've done such a project and so would find your comments helpful.

We have credited your reward account with £<weeklyincentives>. Your reward account balance now stands at £<totalincentives>.

Below is a link to a short survey, if you're able to take part in this, we will add £3 to your reward balance.

Please [click here to access this week's survey](#).

To thank you for your help, we will send you a Love2Shop gift card for the full amount of your reward balance. This card will be sent to you by Love2Shop and should take 14-21 days to be delivered. You can use the gift card in a large number of shops, see <https://www.highstreetvouchers.com/gift/where-to-spend-love2shop-cards>

Professor Michaela Benzeval,  
Institute for Social and Economic Research  
University of Essex

***B10. Invitation email to end-of-project debrief survey (partial participant)***

Dear {ff\_ttl} {ff\_forename} {ff\_surname},

Thank you very much for your help with the Understanding Society spending survey. This part of the survey has come to an end now, but we would like to ask you a few questions about your experiences taking part in this – it is the first time we’ve done such a project and so would find your comments helpful.

Below is a link to a short survey, if you’re able to take part in this, we will add £3 to your reward balance.

Please [click here to access this week’s survey](#).

To thank you for your help, we will send you a Love2Shop gift card for the full amount of your reward balance. This card will be sent to you by Love2Shop and should take 14-21 days to be delivered. You can use the gift card in a large number of shops, see <https://www.highstreetvouchers.com/gift/where-tospend-love2shop-cards>

Professor Michaela Benzeval,  
Institute for Social and Economic Research  
University of Essex

***B11. Invitation email to end-of-project debrief survey (non-participant)***

Dear {ff\_ttl} {ff\_forename} {ff\_surname},

Last month we invited you to take part in the Spending Survey. We know that not everyone was able to participate, and that some people did not want to take part.

This is the first time we’ve done such a project and so we would like to know more about the reasons that people were not willing or able to participate. To learn about this, we would like to ask you six questions.

Below is a link to this short survey, if you’re able to take part in this, we will send you a gift-card for £3.

Please [click here to access this week’s survey](#).

This card will be sent to you by Love2Shop and should take 14-21 days to be delivered. You can use the gift card in a large number of shops, see <https://www.highstreetvouchers.com/gift/where-to-spend-love2shop-cards>

Professor Michaela Benzeval,  
Institute for Social and Economic Research  
University of Essex



## ***B12. Frequently Asked Questions website***

### **Understanding Society Spending Study FAQ**

You may have recently received a letter or email from us, asking you to take part in a new study which can help researchers look at factors that affect our income and spending, but also how our financial situation affects other parts of our lives, such as our health. Here is a list of FAQs, if your question is not here, please [contact us](#).

#### **When do I get my gift-card?**

One week after the month is completed, we will see who has finished the study and whether they have completed the end-of-project online survey. We will process the rewards each week, and the gift-cards will be sent to you by Love2Shop within 14-21 days.

#### **What is this study?**

The Understanding Society Spending Study is a research project which is trialling new ways of collecting information on spending that are easier than detailed questions. In our last survey, we asked some new questions in order to better understand how you manage your finances. By combining this information, with the information from receipts, we will get a clearer picture of how different households manage their money.

The Understanding Society Spending Study is being conducted by researchers at the [Institute for Social and Economic Research](#) at the University of Essex, with our partners at [Kantar](#).

#### **I am having trouble logging in to the app, where is my user name and password?**

After you complete the registration survey online, you should reach a screen which gives you your unique user-name. This will start with UK and be followed by 6 numbers, for example UK012345. You do not need a password, you can leave this blank.

#### **Can I use my Windows phone?**

Unfortunately, the app used for this study is only available for mobile devices which use the Android or the Apple iOS operating systems.

#### **What do you want me to do?**

Go to the URL printed on your letter or click the link on the email we sent you. After answering a few quick questions, you will be given information on how to download the PanelSmart app. Once you have downloaded the app and registered, when you buy something, you will be able to use the app to take a picture of your receipt and send it to us. If you spend some money and don't get a receipt, or you did not spend anything in a particular day, you can record that using the app as well. We would like you to use the app daily for a month.

### **Where can I get the app?**

You will receive instructions after you complete the short online survey. The app is available from the Apple App Store and the Google Play app store for Android. Search for “PanelSmart”. Download the app and then launch it.

### **How do I submit a receipt?**

When you have a receipt, select the “Submit Purchase or Nothing Bought Today” option on the first menu. Then select the “Submit a Receipt” option. You will then be able to use the camera on your phone or tablet to take a picture of your receipt. There are a couple of screens with information on how to do this and then you will get a screen where you will see an icon of a camera. Press this to take a photo or to upload a photo you’ve already taken. You will get a chance to re-take the photo if necessary. If the receipt is long or double-sided you will be able to select an option to photograph another section of the receipt, or to indicate that the full receipt has been captured. Once that is done, you can press and the app will send us the receipt.

### **What about online purchases?**

If you get a receipt from the online purchase (e.g., such as supermarket online shopping), you can scan that as normal. Otherwise, you can let us know about spending where you did not get a receipt using the app. To do this you should go to the “Submit Purchasing or Nothing Bought Today” option and then select the “No receipt” option.

### **What if I don’t spend anything during a particular day?**

Please tell us about this as well. To do this you should go to the “Submit Purchasing or Nothing Bought Today” option and then select the “Nothing bought” option.

### **How long will it take?**

It only takes a few seconds to use the app, photograph a receipt and send it to us.

### **What’s in it for me?**

As a token of our appreciation for your help, we will reward you for your participation. We will keep track of a reward account, and when you download and install the app, we will add your welcome reward to the account. Each day that you use the app, even if it’s to tell us you didn’t spend anything that day, we will add 50p to your reward account. At the end of 31 days, if you have been active every day, you will get a bonus of £10. At the end of the survey period, if you answer a small set of questions about your experience with the app, you’ll earn another £3. We will send you weekly updates to let you know how much you have earned and will send you a Love2Shop gift card for that amount at the end of the study.

### **What happens with my information?**

We can use the information on your receipts to understand your pattern of spending over the month, as well as gathering some information about the shops you use, and the products you buy. The images you send us will be anonymised, and the items bought, and the cost, will be coded into categories, such as “food”, “health and beauty”, “household cleaning” and so on. The information on the name of the shop and the date and time of the purchase will also be recorded. At no point will researchers have access to any of your personal information. The information provided will only be used for research purposes.

### **Who should I contact if I need help?**

Please [email us](#) if there are technical issues, we will pass your query on to Kantar WorldPanel and they will get back to you as soon as we can.

### **Which type of purchases should I submit?**

Please report all money spent on buying goods and services – excluding mortgage or rent payments and regular bills (such as gas, electricity, water, council Tax, internet, telephone, mobile phone and household and car insurance). But include money spent at a point of sale (e.g., store, petrol station, restaurant, etc), online, or for other purchases in cash, by cheque or one-off bank transfer (e.g., babysitter, workmen, vending machines, etc).

Please include:

Essentials:

- Food and groceries
- Clothes and footwear
- Transport costs, e.g., petrol, car maintenance, public transport costs
- Child costs, e.g., childcare, school equipment and fees
- Home improvements and household goods, e.g., DIT, gardening, furniture, white goods or electrical goods
- Health expenses, e.g., glasses, dental care, prescriptions, social care
- Leisure and other discretionary spending:
- Socialising and hobbies, e.g., going out (restaurants, pub, cinema, theatre, concert), gym, or club membership, arts and crafts, children’s activities
- Other goods and services, e.g., books, magazines, DVDs, Blu-Rays, CDs, downloads, games, toys, beauty products, haircuts, manicures, massages
- Holidays
- Giving money or gifts to other people, e.g., money for children, gifts or money for relatives, donations to charity

### **What if the receipt includes some items for someone else?**

Please submit the receipt anyway.

### **What should I do if someone else in the household has a receipt but is not taking part in this Spending Study?**

We will ask you to estimate the total amount of money spent by other members of your household at the end of each week. You do not need to scan their receipts.

### **Tips for capturing your receipts**

We need to be able to read all the details on your receipts so it's very important for the pictures to be as clear as possible. If we're unable to use a receipt we may miss some important information about household spending patterns, so below are some tips to help you take the best quality pictures.

- Capture all details
- Make sure all details printed on the receipt are captured in your images, from the very top right to the bottom, but don't take the picture too far away from the receipt as the text may become too small to read.
- For particularly long receipts with approximately 30+ items, you may need to capture it in sections.
- For shorter receipts with fewer than 30 items, hold the phone at a distance where the whole length of the receipts fits just within the picture.

#### Creases and wrinkles

- If the receipt has been folded please try to make it as flat as possible before you take the picture. When possible we recommend taking the picture straight after your purchase, this way you also won't forget to send it.

#### Lighting

- Make sure there is enough light on the receipt so that the text is clear in the picture. If the light is too dim it may not be possible for us to read the text. If it is too dark, try using the camera light if your phone has one.

#### Perspective

- Take the picture from directly above the receipt, e.g., so that the receipt appears as a flat rectangular shape in the image and not at an angle.

#### Blurring

- Keep your phone held as steady as possible when you take the picture to avoid the text becoming blurred. We also suggest placing the receipt on a flat surface such as a desk or table so that it is stable.

#### Long receipts

- For long receipts – e.g., a grocery receipt with lots of items (30+) – please take up to four pictures, starting from the top of the receipt and working down. We suggest folding the receipt in half so you can be sure you don't miss any details in the middle. Alternatively, you can cut the receipt into parts (up to 3) and place them side-by-side to capture them all in one picture.

## **Double-sided receipts**

When submitting your receipt, please take one image of the front of the receipt, then one of the reverse.

## **Multiple receipts in picture**

Avoid capturing multiple receipts in the same picture, e.g., in the background or to the side of the one you are photographing.

## **I have submitted the same receipt twice, what should I do?**

We suggest that it is best to send receipts as soon as you receive them so you don't forget. However, we can identify duplicate receipts and remove them from our data so you don't have to do anything if you make a mistake.

## **Can I check which receipts I've already sent?**

Unfortunately, it is not currently possible to see details of which receipts you have sent us. We hope to provide an option to view this in the future.

## **Do I need to send receipts as soon as I make a purchase?**

It is not necessary to send immediately after a purchase but please try to send as soon after your trip as possible so you do not forget.

## **My receipt shows credit card details, how can I remove them?**

You can cover the card number or blank it out using a pen, but please do not cover any details about the items purchase, price or the store or date. Also, please do not cut off the bottom of the receipt as often this includes the date and time of the trip which is very important to us.

## **How much data does it take to send a receipt?**

The amount of data required to send an image depends on your phone's camera resolution. Most smartphone cameras typically have a resolution of 3 megapixels or higher. Images at 3 megapixels will be around 500 kilobytes (0.5 megabytes). On some smartphones it is possible to adjust the resolution of the camera, if so please set the camera to use at least 3 megapixels.

## **Can I transmit by Wi-Fi only?**

Yes. If you have a low data allowance on your mobile phone plan you can choose to transmit data over Wi-Fi only. In the PanelSmart app home screen press the 'Menu' button then select the 'Settings' option and check the box for "WiFi only". If you choose this option please remember to connect to a wireless network regularly in order to send your data.